Patent Claims

1. Multilayer pearl lustre pigment on the basis of a platelet-shaped substrate comprising a material having a refractive index of more than 1.8, which comprises at least

   (i) a first layer of a material of low refractive index in the range from 1.35 to 1.8,

   (ii) optionally, a second layer of a material having a refractive index of more than 1.8,

   (iii) a semitransparent metal layer which is applied to the substrate or to the layers (i) or (ii), and

   (iv) if desired, an aftercoating.

2. Pearl lustre pigment according to Claim 1, characterized in that the substrate is platelet-shaped titanium dioxide, zirconium dioxide, α-iron(III) oxide, tin dioxide or zinc oxide.

3. Pearl lustre pigment according to Claims 1 and 2, characterized in that the material of low refractive index is SiO_2, Al_2O_3, AlO(OH), B_2O_3, MgF_2 or an acrylate.

4. Pearl lustre pigment according to at least one of Claims 1 to 3, characterized in that the material of high refractive index is TiO_2, ZrO_2, Fe_2O_3, SnO_2, ZnO or a mixture of these oxides or an iron titanate, an iron oxide hydrate, a titanium suboxide or a mixture and/or mixed phase of these compounds.

5. Process for producing the pigment of the invention by

- applying a precursor of the substrate material as a thin film to a continuous belt,
- solidifying the liquid film by drying and, in so doing, developing the metal oxide by chemical reaction from the precursor,
- detaching the dried film,
- washing the resultant substrate particles and resuspending them in a coating solution,
- coating the substrate particles with two or more layers of metal oxides or metals, and
- aftercoating the resultant pigment.

6. Process according to Claim 5, characterized in that precursors employed are solutions of organic or inorganic compounds of the metals titanium, zirconium, iron, tin or zinc.

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7. Process according to at least one of Claims 5 and 6, characterized in that the precursor is titanium tetrachloride.

8. Process according to at least one of Claims 5 to 7, characterized in that following drying of the material to be coated the layers are applied in a fluidized-bed reactor by CVD and/or PVD.

9. Use of the pigments according to Claims 1 to 4 for pigmenting paints, printing inks, plastics, cosmetics, glazes for ceramics, and glasses.

10. Use of the pigments according to Claims 1 to 4 for the security sector, especially for printing items of value and of security, for agricultural films and for the laser marking of plastics.

11. Paints, printing inks, plastics, cosmetics, ceramics, glasses and polymer films pigmented with a pigment according to Claims 1 to 4.

12. Laser-markable plastics comprising pigments according to Claims 1 to 4.